serious consideration to offer one way or the other, save to point out the opportunity afforded for infection by domestic birds of drinking places accessible on country farms to wild game. However, my present inclination is to minimize the chances of this sort of factor entering into the present problem.

Then what critical factor *does* remain, to account for the marked decrease of the quail, even where general conditions remain altogether favorable?

I originally got the idea set forth in the following paragraphs from a sportsman long resident in Marin County, north of San Francisco Bay. It involves a factor active chiefly, but nevertheless vitally, in a very short segment of the life cycle of our quail. Briefly, a brood of newly hatched quail must find itself within walking distance (walking distance, be it emphasized, for the *little* quail) of water to drink by them, within a few hours of hatching. Anticipating this need, the old quail seek nesting sites accordingly. For without water the young are doomed to perish, *if* time of hatching happens to fall within a rainless or dewless period of weather. Failing to find such a propitious site, the nesting of a given pair of quail is a failure for that season.

Throughout the southwestern United States the thing of very greatest economic demand by the rapidly increasing human population is, not land, not minerals, not timber, but *water*. Every surface trickle, in every foothill ravine, which will yield water at the close of the rainy season, usually in April, and throughout the long late spring and summer dry season, is being tapped. At first the surface water is led off by pipe line to the thirsty ranch below. But a next step quickly follows: The seepage is tapped underground, a tunnel being driven in, and the water is drained from the porous rock or bed of sand below the surface. Then the mouth of the tunnel is screened, for the very purpose of keeping out animals of all sorts (so as to prevent "contamination"). In other words, the natural water supply, under original conditions provided at the surface, and accessible to the water-dependent wild animal life in the vicinity, has disappeared. It is only available, at best, in the very near vicinity of some human habitation far below, to which the pipe line leads, but where house cats, dogs and human beings prevent safe approach by quail. Not only for the thirsty youngsters but for the adult quail the original watering place has vanished.

There is, I believe, a critical distance, which, rain or dew failing, is the absolute limit a quail's nest may be located from safely accessible water and result in a matured brood. I estimate, from an accumulation of impressions (I grant) of my own, that maximum distance to be 400 yards. *If* a pair of quail can not find suitable cover and safety for its nest within that distance from water which will be accessible by the newly hatched young on foot, either the attempt is abandoned or that nesting is destined to failure. The common observation that few quail are raised in years of severe drouth supports this idea.

Immediate accessibility to water under conditions of safety, on the part of the little quail before they acquire wing power which will enable them to go long distances between forage grounds and possible drinking places, is then, I think, the prerequisite to maintenance of our quail and certain other upland game birds, even where all the other critical factors are favorable. And that factor of water supply, in the breeding season of the quail, is the one which, under the stress of human population growth, is becoming more and more the determining one. Properly safeguarded watering places are becoming fewer and fewer, with the inevitable result that large tracts of foothill brush-land otherwise suitable for the support of an abundant quail population come to lie untenanted by these esthetically attractive and recreationally valuable game birds.

The water supply available in the dry season is a factor delimiting not only human but certain other vertebrate populations in the arid southwest.

JOSEPH GRINNELL
MUSEUM OF VERTEBRATE ZOOLOGY,
UNIVERSITY OF CALIFORNIA

SOCIETIES AND ACADEMIES

THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY

THE Federation of American Societies for Experimental Biology in conjunction with four other societies, namely the American Association of Pathologists and Bacteriologists, American Association of Immunologists, American Association for Cancer Research and the International Association of Medical Museums, held the annual meeting at the University of Rochester and Strong Memorial Hospital from April 14 to 16, 1927. It is the first time since 1918 that the Federation held its meetings at a time other than the Christmas holidays. The attendance was so high and the number of papers presented so numerous and of such character that most of those attending consider the spring meeting a great success. It was so successful that councils of the four societies constituting the Federation unanimously voted to continue the experiment for another year.

At the last joint session the Federation as a body formally extended to the Medical School of the Uni-

versity of Rochester and to the local committee a unanimous vote of thanks for the very efficient manner in which the numerous details necessary for the success of the meeting had been cared for and for the very cordial reception experienced by all attending.

The executive committee of the Federation chose Ann Arbor as the meeting place for the spring of 1928.

Another important matter brought before the four societies of the Federation was the arrangements to be made in connection with the holding of the Thirteenth International Physiological Congress in the United States in 1929. It was agreed that the Federation as a whole would take over the management of this important event. The first step taken was to choose a national committee of four physiologists, three biochemists, two pharmacologists and two pathologists. This committee has met already and one of the important decisions made is that the congress is to be held at Harvard.

The Rochester meeting was held with Dr. E. C. Kendall, president of the American Society of Biological Chemists, as chairman. At next year's meeting Dr. Carl Voegtlin, Hygienic Laboratory, Washington, D. C., president of the American Society for Pharmacology and Experimental Therapeutics, will be the chairman and Dr. E. D. Brown, University of Minnesota, will act as general secretary.

F. C. KOCH,
General Secretary

UNIVERSITY OF CHICAGO

AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

THE eighteenth annual meeting of the American Society for Pharmacology and Experimental Therapeutics was held at the University of Rochester Medical School, Rochester, N. Y., on April 14, 15 and 16.

The first meeting was a joint session of the four societies which conjointly form the Federation of American Societies for Experimental Biology. Sessions of the Pharmacological Society were held on the afternoon of the same day and during the two days following.

There was no one paper presented which might be selected as possessing unusual merit, but the papers as a whole were good and a liberal discussion followed the reading of each paper.

The attendance was unusually large and it was felt that this was in a large measure due to the change in time for holding the annual meeting which had heretofore been held during the Christmas holidays.

At a business meeting of the society, the following officers were elected:

President, Dr. Carl Voegtlin, Washington, D. C.
Secretary, Dr. E. D. Brown, Minneapolis, Minn.
Treasurer, Dr. A. L. Tatum, Chicago, Ill.

Ten new members were elected to membership in the society.

The medical school of the University of Rochester, where all the meetings were held, was found to be well adapted for our use and everything was provided in the way of equipment for the presentation of papers and demonstrations.

The local committee received a vote of thanks for the able manner in which they had provided for our comforts while guests of their city. They are to be commended for their efforts which contributed in a large measure to the success of the meeting.

E. D. BROWN, M.D.,
Secretary.

THE OHIO ACADEMY OF SCIENCE

THE Ohio Academy of Science held its thirty-seventh annual meeting at the Ohio State University, Columbus, on April 15 and 16, 1927, under the presidency of Dr. William McPherson. The attendance was unusually good, there being 125 at the annual banquet on Friday evening.

The Academy was unusually well favored this year in the matter of "invitation speakers" in that it had the opportunity of hearing Dr. Robert A. Millikan, of the California Institute of Technology, in one or two lectures on the general theme "Twentieth Century Discoveries in Physics," and Dr. C. E. McClung, of the University of Pennsylvania, on "The Mechanism of Heredity," each an outstanding scientist in his field.

In addition to these unusual lectures, the members of the Academy prepared and presented some 81 papers on various topics; of these 81 papers, 10 were presented in general session, 11 in the zoology section, 19 in the botany section, 20 in the geology section, 11 in the medical sciences section and 10 in the psychology section. In addition, some eight or nine interesting demonstrations and exhibits were offered, one of which, the wild flowers of Ohio by Mr. William Kayser, was notable.

Sixty-one new members were elected and seven members were raised to the rank of fellow in the academy. The following officers were elected for the ensuing year: *President,* Harris M. Benedict, University of Cincinnati, Cincinnati; *secretary,* William H. Alexander, U. S. Weather Bureau, Columbus; *treasurer,* A. E. Waller, Ohio State University, Columbus.

WILLIAM H. ALEXANDER,
Secretary